

**Work Order ID 74794****\*74794\***

Page 1

October 6, 2011 1:39:24 PM

Item ID: D119-646-241

Accept

**\*N9000040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube STD w/ Training Wearplates

Start Date: 10/06/11 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 10/17/11 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: M.C.J Date: 11/10/06 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3887	B								
IIN-D119-646	B								

100

0.00

**\*100\***

DC

Document Control

Memo

0.00

Photocopy bluefile &amp; type labels per PPP D119-646-241 CHG001

110

0.00

**\*110\***

Skidtubes

Skidtubes

Memo

0.00

1- inspect Mat'L D2500-1-190 for damage

2- Remove 45.3125" from d2500-1-180, deburr ends.

3- Ensure squareness of ends and scribe batch#

DC 12/04/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 74794****\*74794\***

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Item ID: D119-646-241

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube STD w/ Training Wearplates

Start Date: 10/06/11 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 10/17/11 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Chemical Conversion Coat per QSI005 4.1	0.00							
<b>*120*</b>									
HandFinish	Memo	0.00							
Hand Finishing									
121	QC3- Inspect Part Finish	0.00							
<b>*121*</b>									
QC	Memo	0.00							
Quality Control									
122	QC5- Inspect part completeness to step on W/O	0.00							
<b>*122*</b>									
QC	Memo	0.00							
Quality Control									

DC 12/04/04

DP 12-4-5

DP 12-4-5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Item Name: Replacement Skidtube STD w/ Training Wearplates

Start Date: 10/06/11 Start Qty: 1.00 **\*1\***

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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

0.00

**\*130\***

Skidtubes

Skidtubes

**Memo**

0.00

1-Install drill Jig DT9477 drill X-bolt spacer pilot holes using 3/16" drill

2-Open crossbolt spacer holes to finished size as per dwg D3887 (section D-D and E-E) \*\*\*DO NOT OPEN FWD Saddles Holes\*\*\*

3- Deburr, blow out chips from inside of tube.

4 -Bond web in place as per Dwg D3887 &amp; QSI 015.

A/RSikaflex-291 120813Sikaflex expire date: 12/08/13Start: 12/04/11 Time: 8:15Finish: 12/04/11 Time: 5:00

\*\*\*\*\* (Adhere for 12 hours) \*\*\*\*\*

DC 12/04/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

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Item ID: D119-646-241

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Item Name: Replacement Skidtube STD w/ Training Wearplates

Stop **\*NS2\***Start Date: 10/06/11 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 10/17/11 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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135

QC5- Inspect part completeness to step on W/O

0.00


**\*135\***

QC

Memo

0.00

Quality Control

 12-4-9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube STD w/ Training Wearplates

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Cust Item ID:

Required Date: 10/17/11 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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140

0.00

**\*140\***

Skidtubes

Skidtubes

**Memo**

0.00

1- Bend FWD end of tube using bender 1 and bend prog. D3887.\*\*\*Must use bending aid DT9544, ensure proper positioning\*\*\*

2- Cut FWD end of tube as per dwg D3887.\*\*\*Verify measurment\*\*\*

3- Buff out marks left from bending

4- Drill FWD cap holes using DT8215. Open FWD &amp; AFT cap holes to 0.208"

5- Open FWD saddle holes to finished size as per dwg D3887

6- Drill FWD x-bolt spacer holes to finished size ( holes must be laid out manually.)

7- Drill Tow ring hole,holes must be laid out manually . Open to finished size.

8- Deburr and blow out chips from inside of tube.

OK 12/04/09

OK 12/04/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

# Work Order ID 74794

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Item ID: D119-646-241 Accept **\*N9000040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Replacement Skidtube STD w/ Training Wearplates  
 Start Date: 10/06/11 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 10/17/11 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC5- Inspect part completeness to step on W/O	0.00				1	0		BE 12/04/11
<b>*150*</b>									
QC	Memo	0.00							
Quality Control									
160		0.00				1	0		BE 12/04/12
<b>*160*</b>									
Skidtubes	Memo	0.00							
Skidtubes	1- Countersink crossbolt spacer holes, and prepare tube for welding, deburr. - DC 12/04/10								
	2-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3887. Remember to back drill each hole before welding the other side. Use aluminum rod A/RAluminum Rod <u>M120164</u>								
	3-Grind cross bolt welds flush as per Dwg D3887. Ensure no pin hole. - DC 12/04/12								
	4-Counterbore x-bolt spacer holes as per Dwg D3887.								
	5- Deburr and blow out chips from inside of tube								

**> BE/CC 12/04/12**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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**\*74794\***

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**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 10/06/11      **Start Qty:** 1.00      **\*1\***

**Cust Item ID:**

**Required Date:** 10/17/11      **Req'd Qty:** 1.00      **\* 1 \***

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

### Operation Description

## Set Up/ Run Hours

Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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170

QC5- Inspect part completeness to step on W/O

0.00

**\*170\***

Elizabeth

QC

## Memo

0.00

## Quality Control

180

QC10- Inspect visual per QSI004- ground welds

0.00

**\*180\***

Orkney

QC

## Memo

0.00

## Quality Control

190

Pressure Wash per QSI005 4.3

0.00

**\*190\***

## Memo

0.00

HandFinish

### Hand Finishing

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 74794

**\*74794\***

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Item ID: D119-646-241

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube STD w/ Training Wearplates

Start Date: 10/06/11 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 10/17/11 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00				1X	✓		M-L 12/04/11
<b>*200*</b>									
Powdercoat									
Powder Coating									
M121134									
210	QC3- Inspect Part Finish	0.00							
<b>*210*</b>									
QC									
Quality Control									
240		0.00							
<b>*240*</b>									
HandFinish									
Hand Finishing									
	Memo	0.00							
	1-Install wearplates as per Dwg D3887.								
	2-Inspect for foreign objects as per QSI 024								
	3-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.								
	A/R Sikaflex-240/-291 M121221								
	Sikaflex expire date: 12/01								

PTO →

1X d M 12/04/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
12/04/30	240	Assemble with : (4x) NAS 1149 C0332R / M121509. washer A per drawing.	GU E	12/04/30 R.04.30	4		

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 74794****\*74794\***

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Required Date: 10/17/11 Req'd Qty: 1.00 **\*1\***

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Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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250 QC5- Inspect part completeness to step on W/O 0.00

**\*250\***

QC Memo 0.00

Quality Control

255 Wing Walk as per dwg QSI005 4.4 Batch 11/12/11 0.00**\*255\***

HandFinish Memo 0.00

Hand Finishing

256 QC3- Inspect Part Finish 0.00

**\*256\***

QC Memo 0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube STD w/ Training Wearplates

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Required Date: 10/17/11 Req'd Qty: 1.00 **\*1\***

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Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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260 Identify as per dwg &amp; Stock Location: \_\_\_\_\_

0.00

**\*260\***

Packaging

Memo

Packaging

PP 74790

IX

SP  
12-6-7

270 QC21- Final Inspection - Work Order Release

0.00

**\*270\***

QC

Memo

Quality Control

12/6/8

ML 12/06/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

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Work Order ID: 74794

**\*74794\***

Parent Item: D119-646-241

**\*D119-646-241\***

Parent Item Name: Replacement Skidtube STD w/ Training Wearplates

Start Date: 10/06/11

Required Date: 10/17/11

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2500-1-190 <b>*D2500-1-190*</b> Ext'n - I' Beam Tube 4"		Manufactured	No			110	Each	27.0000	1	1			
									**			DL 12/04/04	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG		27							
					66296	27							
D3885-1 <b>*D3885-1*</b> Standard Web		Manufactured	No			140	Each	12.0000	1	1			
									**			DL 12/04/05	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG		12							
					52421	12							
D3903-1 <b>*D3903-1*</b> Spacer		Manufactured	No			160	Each	15.0000	12	12			
									**				
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG001		15							
					47476	7							
					51849	8							
D3681-1 <b>*D3681-1*</b> Spacer		Manufactured	No			160	Each	39.0000	8	8			
									**				
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG		39							
					68958	2							
					69893	2							
					71845	35							

BE 12/04/11  
B78790 \*11

BE 12/04/11  
B 80361 \*B

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

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Work Order ID: 74794

**\*74794\***

Parent Item: D119-646-241

**\*D119-646-241\***

Parent Item Name: Replacement Skidtube STD w/ Training Wearplates

Start Date: 10/06/11

Required Date: 10/17/11

Start Qty: 1.00

Required Qty: 1.00

D2855-3 Manufactured No

240 Each

7.0000

2 2

**\*D2855-3\***

Cap

\*\*

12/04/30

Location

Loc Qty

Loc Code

FP005

7

B75080

x2

52281

7

AN3C5A

Purchased No

240 Each

1,520.000

4 4

**\*AN3C5A\***

Bolt

\*\*

12/04/30

Location

Loc Qty

Loc Code

FP-A

7

M121068

x4

115835

7

ST350

1513

116419

28

117343

314

117764

169

117872

2

118451

500

119127

500

D3904-1

Manufactured No

240 Each

236.0000

16 16

**\*D3904-1\***

Washer

\*\*

12/04/30

Location

Loc Qty

Loc Code

ST090

236

51875

236

x16

D3672-1

Manufactured No

240 Each

360.0000

4 4

**\*D3672-1\***

Phenolic Washer

\*\*

12/04/30

Location

Loc Qty

Loc Code

ST074

360

B76277

x4

72229

360

October 6, 2011 1:39:30 PM

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Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

October 6, 2011 1:39:30 PM

Page 3

Work Order ID: 74794

**\*74794\***

Parent Item: D119-646-241

**\*D119-646-241\***

Parent Item Name: Replacement Skidtube STD w/ Training Wearplates

Start Date: 10/06/11

Required Date: 10/17/11

Start Qty: 1.00

Required Qty: 1.00

D3849-041 Manufactured No

240 Each 3.0000 1 1

**\*D3849-041\***

FWD WEARPLATE ASSY, STD/FLOAR GEAR

\*\*

12/04/30

Location

Loc Qty

Loc Code

FP009

3

B82666

41

53030

3

D3849-043 Manufactured No

240 Each 3.0000 1 1

**\*D3849-043\***

AFT WEARPLATE ASSY, STD GEAR

\*\*

12/04/30

Location

Loc Qty

Loc Code

FP009

3

B82669

41

52402

3

AN3C46A Purchased No

240 Each 67.0000 8 8

**\*AN3C46A\***

BOLT

\*\*

12/04/30

Location

Loc Qty

Loc Code

ST355

67

A1121103

X8

118757

17

118758

50

MS21043-3 Purchased No

240 Each 951.0000 8 8

**\*MS21043-3\***

Nut

\*\*

12/04/30

Location

Loc Qty

Loc Code

FG

72

103691

72

ST301

879

118077

1

118614

492

118686

386

X8

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Page 3

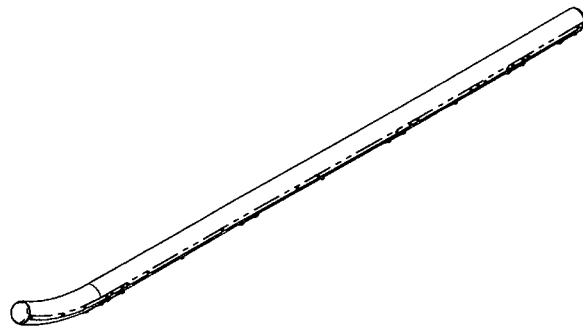
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3887-041 STANDARD SKIDTUBE ASSY WITH WEARPAD (SHOWN)**  
**D3887-043 STANDARD SKIDTUBE ASSY WITH WEAPLATE (SIMILAR)**  
**D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-1 WEB  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3887-041 = 32.0 lbs  
D3887-043 = 37.0 lbs  
D3887-045 = 38.1 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO  $\phi 0.197$  HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8931 TO LOCATE AND DRILL  $\phi 0.297$  HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3887-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3887-041	STD SKIDTUBE ASSY WITH WEARPAD
2		X		D3887-043	STD SKIDTUBE ASSY WITH WEARPLATE
3			X	D3887-045	STD SKIDTUBE ASSY WITH TRAINING WEARPLATE
11	2	2	2	D2855-3	CAP
12	16	16		D3492-045	PLUG ASSY
13	4	4	4	D3672-1	PHENOLIC WASHER
14	8	8	8	D3681-1	SPACER
15	5			D3846-1	GASKET
16	1			D3846-11	GASKET
17	5	5		D3847-1	WEARPAD
18	1	1		D3847-11	AFT WEARPAD
19		1		D3847-043	FWD WEARPLATE ASSY
20		1		D3847-045	CENTER WEARPLATE ASSY
21		1		D3847-047	AFT WEARPLATE ASSY
22			1	D3849-041	FWD TRAINING WEARPLATE ASSY
23			1	D3849-043	AFT WEARPLATE ASSY
24	1	1	1	D3885-1	STANDARD WEB
25	1	1		D3887-11	STANDARD SKIDTUBE
26			1	D3887-13	STANDARD SKIDTUBE
27	12	12	12	D3903-1	SPACER
28			16	D3904-1	WASHER
41	30	30		ALS4-1032-130	INSERT
42	34	34	4	AN3C5A	BOLT
43			8	AN3C46A	BOLT
44	34	34		NAS1149C0332R	WASHER (OR AN960C10L)
45			8	MS21043-3	NUT

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SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. 741794

11-10-4

RELEASED  
09/07/84

B	ALS4-1032-130 WAS AELS-1032-130, ZN C4-1, C5-7, C3-7; ADD DT8931, ZN A6-1; ADD 134-04, ZN C4-8; D2855-3 WAS D2575 (ZN D4-1, C7-2, C2-2, C7-3, C2-3, C7-4, C2-4); AN3C5A WAS AN3C4A (ZN C8-2, C2-2, C6-3, C2-3, C6-4, C2-4)		RF	09.06.30
A	NEW ISSUE		RF	09.03.30
REV.	DESCRIPTION		BY	DATE
DESIGN	RF	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA. DRAWING NO. <b>D3887</b> TITLE <b>A119 STD SKIDTUBE ASSY</b> SCALE <b>NTS</b> SHEET 1 OF 8 REV. B COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>		
DRAWN	RF			
CHECKED	RF			
MFG. APPR.	RF			
APPROVED	RF			
DE APPR.	RF			
DATE	09.06.30			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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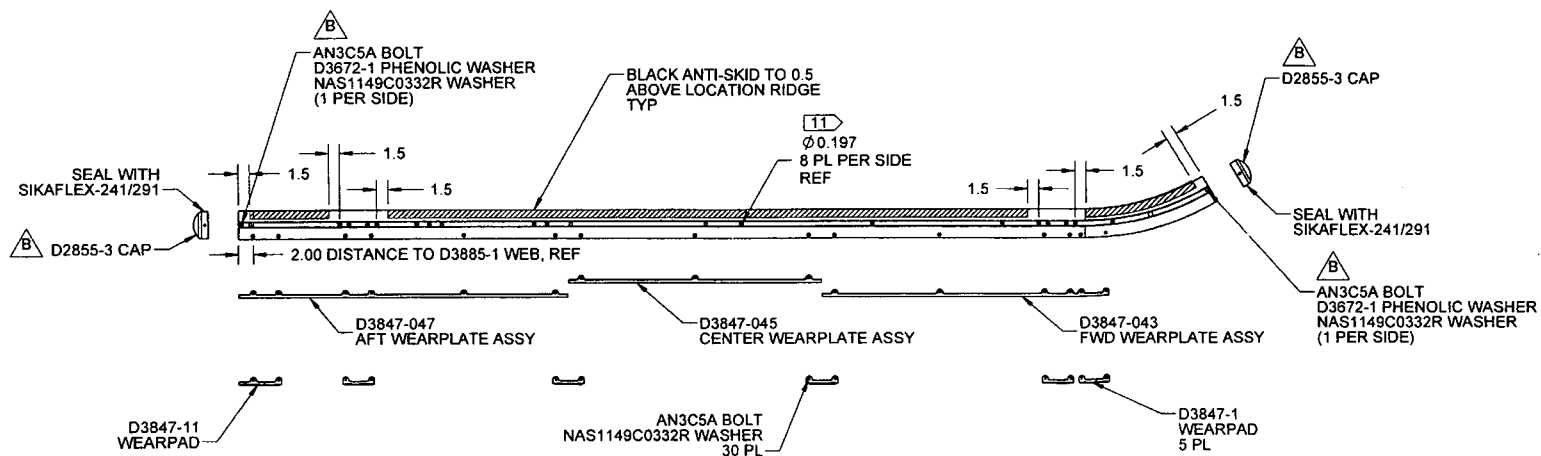
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3887-043 STANDARD SKIDTUBE ASSY WITH WEARPLATE**  
(MAKE FROM D3887-11)

74794

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9/16/15 MJB

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DRAWN	RF	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO. <b>D3887</b>	REV. B SHEET 3 OF 8
MFG. APPR.	<i>[Signature]</i>	TITLE	SCALE
APPROVED	<i>[Signature]</i>	<b>A119 STD SKIDTUBE ASSY</b>	NTS
DE APPR.	<i>[Signature]</i>	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC.	
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

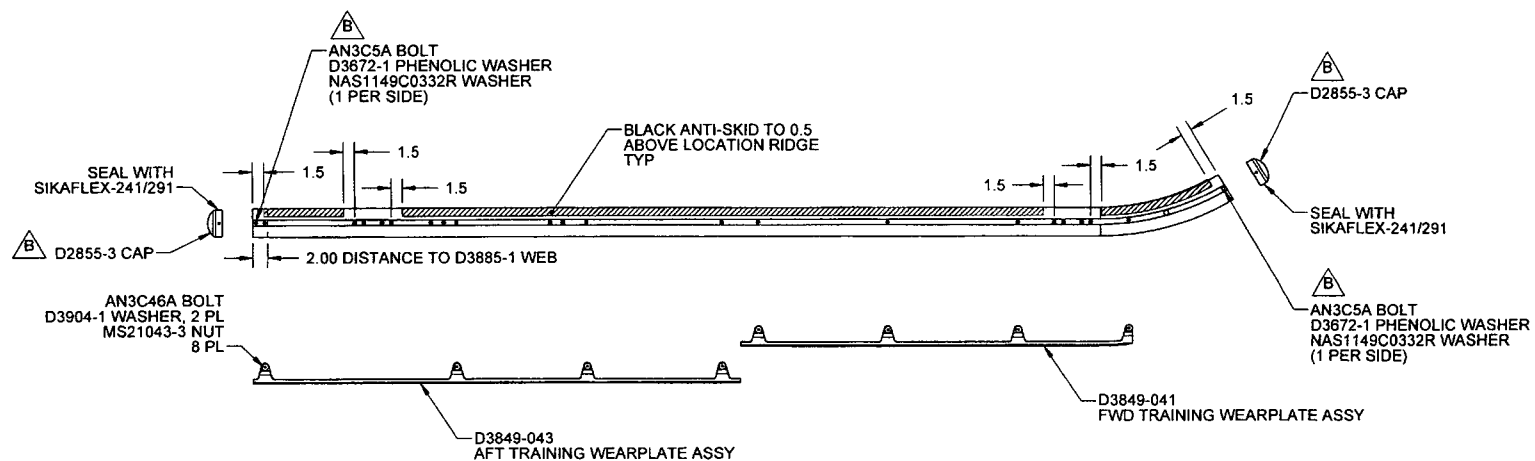
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





**D3887-045 STANDARD SKIDTUBE ASSY WITH TRAINING WEARPLATE**  
(MAKE FROM D3387-13)

74794  
**RELEASED**  
01/07/15

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	<i>RF</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>CS</i>	D3887	SHEET 4 OF 8
APPROVED	<i>MD</i>	TITLE	SCALE
DE APPR.	<i>MD</i>	A119 STD SKIDTUBE ASSY	NTS
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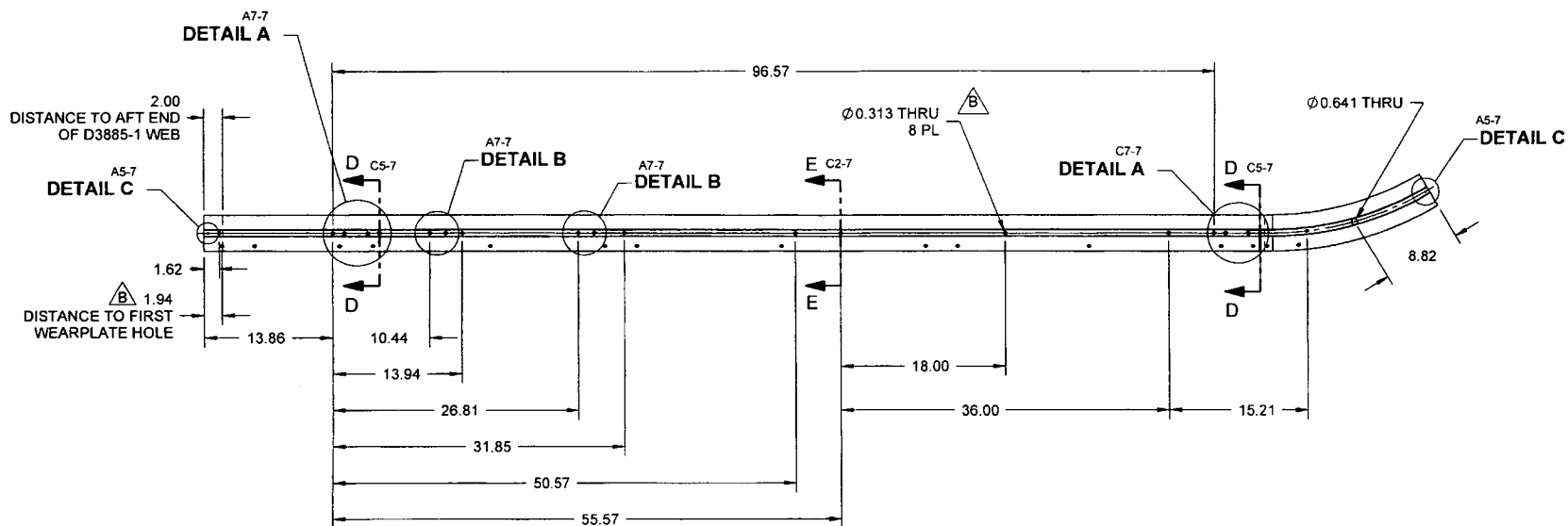
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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**D3887-11 DRILLING DETAIL**  
(MAKE FROM D3887-1)

74794

**RELEASED**  
09/16/15 AM

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CHECKED	<i>RF</i>	DRAWING NO. <b>D3887</b>	REV. <b>B</b>
MFG. APPR.	<i>RF</i>	SHEET 5 OF 8	
APPROVED	<i>RF</i>	TITLE	SCALE
DE APPR.	<i>RF</i>	<b>A119 STD SKIDTUBE ASSY</b>	NTS
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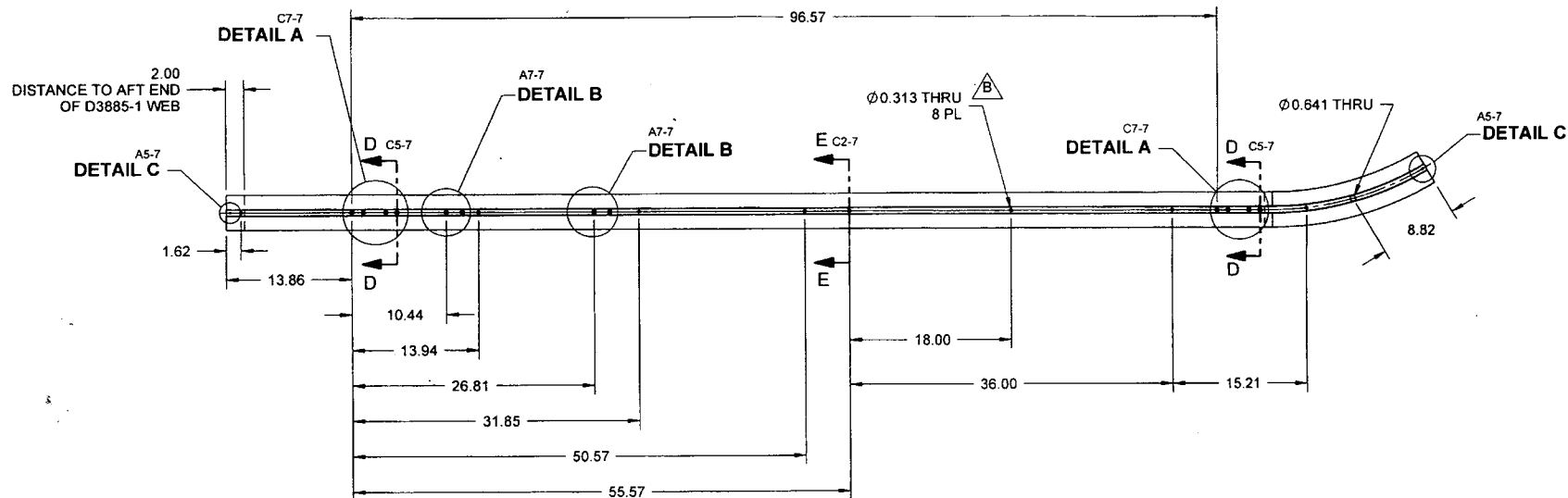
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D3887-13 DRILLING DETAIL**  
(MAKE FROM D3887-1)

**RELEASED**  
2/16/15

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D3887	SHEET 6 OF 8
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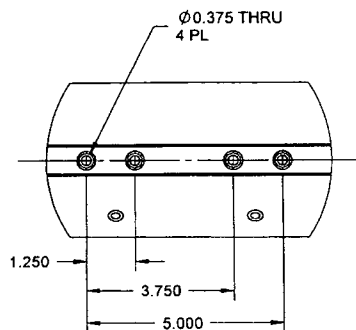
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

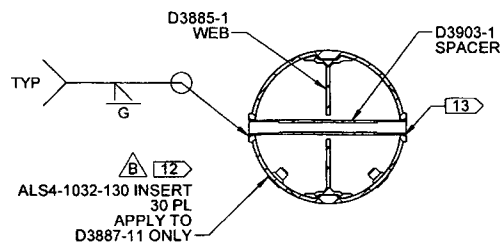
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**DETAIL A**  
SCALE 4X

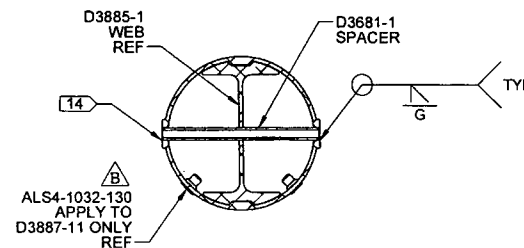
D7-5  
C3-5  
D7-6  
C3-6



**SECTION D-D**  
SCALE 4X

(FOR 12 X Ø0.375 HOLES  
PER SKIDTUBE)

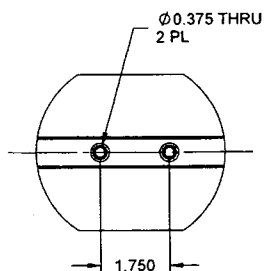
C7-5  
C3-5  
C7-6  
C2-6



**SECTION E-E**  
SCALE 4X

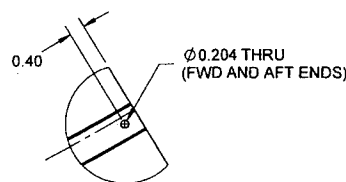
(FOR 8 X Ø0.313 HOLES  
PER SKIDTUBE)

C4-5  
C4-6



**DETAIL B**  
SCALE 4X

C6-5  
C5-5  
C6-6  
C5-6



**DETAIL C**  
TYPICAL  
SCALE 4X

C8-5  
C1-5  
C8-6  
C1-6

74794

**NOTES:**



13) AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:

- i) CHAMFER HOLES Ø0.475 x 45°
- ii) INSERT D3903-1 SPACER
- iii) WELD INTO PLACE AND GRIND FLUSH
- iv) C'BORE TO 0.313 x 0.75 DEEP
- v) DEBURR HOLES

14) AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:

- vi) CHAMFER HOLES Ø0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
- vii) INSERT D3681-1 SPACER
- viii) WELD INTO PLACE AND GRIND FLUSH
- ix) DEBURR HOLES

**RELEASED**  
09/06/2000

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DRAWN	RF	PORT HADLOCK, WA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.		D3887	SHEET 7 OF 8
APPROVED		TITLE	SCALE
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



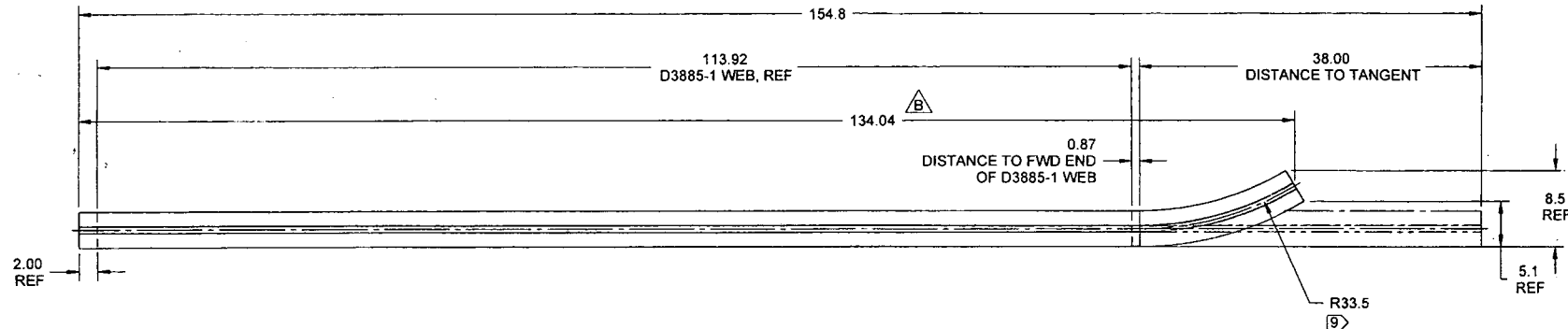
8 7 6 5 4 3 2 1

D

C

B

A



**D3887-1 BEND DETAIL**  
(MAKE FROM D2500-1-190 EXTRUSION)

74794

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10/16/15

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D3887	SHEET 8 OF 8
APPROVED	RF	TITLE	SCALE
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8 7 6 5 4 3 2 1

## WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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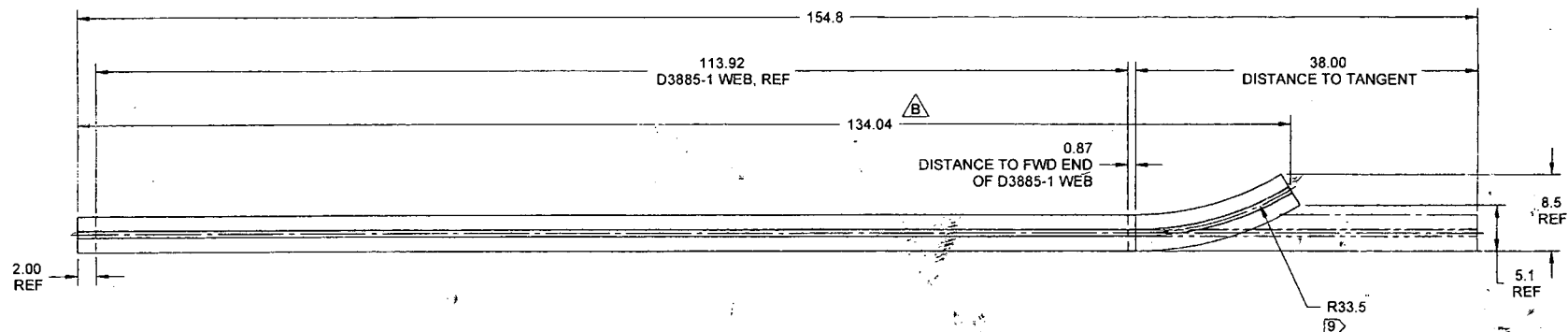
8 7 6 5 4 3 2 1

D

C

B

A



**D3887-1 BEND DETAIL**  
(MAKE FROM D2500-1-190 EXTRUSION)

**RELEASED**  
11/16/15

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	AB	DRAWING NO.	REV. B
MFG. APPR.		D3887	SHEET 8 OF 8
APPROVED		TITLE	SCALE
DE APPR.		A119 STD SKIDTUBE ASSY	NTS
DATE	09.06.30	<small>COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

NO. 288

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 74794  
Part number: D119-646-241  
Description: Skid tube  
Welding Process: Tig Mig[ ]  
Base material: Alum  
Current: AC[ ] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier David Leuch Date of Test Coupon 12.04.16  
Welder Barclay Elliott Date of Test Coupon 12-04-16

The above named individual is qualified in accordance with AWS D17.1.2001 to weld